

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: PROVINCE POND	Lake Area (ha):	2.43
Town: CHATHAM	Maximum depth (m):	4.0
County: Carroll	Mean depth (m):	1.2
River Basin: Saco	Volume (m ³):	30000
Latitude: 44°07'55" N	Relative depth:	2.2
Longitude: 71°02'55" W	Shore configuration:	1.81
Elevation (ft): 1322	Areal water load (m/yr):	11.45
Shore length (m): 1000	Flushing rate (yr ⁻¹):	9.30
Watershed area (ha): 43.8	P retention coeff.:	0.53
% watershed ponded: 0.0	Lake type:	natural w/dam

<u>BIOLOGICAL:</u>	6 February 1992	31 July 1991
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBYRON 95%	PERIDINIUM 35%
#2		DINOBYRON 25%
#3		MALLOMONAS 20%
PHYTOPLANKTON ABUNDANCE (cells/mL)		420
CHLOROPHYLL-A (µg/L)		9.60
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 50%	KERATELLA 30%
#2	ASPLANCHNA 19%	CILIATE SPP. 20%
#3	CILIATE SPP. 19%	NAUPLIUS LARVAE 14%
ROTIFERS/LITER	131	126
MICROCRUSTACEA/LITER	6	83
ZOOPLANKTON ABUNDANCE (#/L)	170	279
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		3.3
BOTTOM DISSOLVED OXYGEN (mg/L)	9.0	3.9
BACTERIA (fecal col., #/100 ml) #1		10
#2		< 10
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None
Hypolimnion volume (m³): None
Anoxic volume (m³): None

CHEMICAL:

Lake: PROVINCE POND

Town: CHATHAM

	6 February 1992		31 July 1991		
DEPTH (m)	1.0	2.0	1.5		3.0
pH (units)	6.0	6.0	6.8		6.6
A.N.C. (Alkalinity)	3.9	6.1	6.0		6.3
NITRATE NITROGEN	< 0.02	< 0.02	0.05		< 0.05
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS	0.003	0.002	0.022		0.016
CONDUCTIVITY (μ mhos/cm)	23.1	27.4	24.4		24.4
APPARENT COLOR (cpu)	< 5	5	14		17
MAGNESIUM			0.32		
CALCIUM			2.1		
SODIUM			1.8		
POTASSIUM			0.61		
CHLORIDE	< 3	< 3	< 2		< 2
SULFATE	4	4	3		3
TN : TP					
CALCITE SATURATION INDEX			3.4		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1991

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	3	2	7	Meso.

COMMENTS:

1. This is a remote pond that was surveyed cooperatively with the N.H. Fish and Game Department.
2. The water level was down about two feet in the summer because of a breached dam.
3. At the summer visit, the water appeared to have a slight reddish tinge. Peridinium was the dominant phytoplankton and it can, at times, impart a reddish-brown tinge to the water.
4. Peridinium (60%) was the dominant wholewater plankton.

Province Pond Chatham

5 foot depth contours



